

ABSTRACT

Fresh tea leaves or green tea are converted to black tea using tyrosinase oxidation which alters catechines (a group of green tea polyphenols) to theaflavins. Theaflavins are unique black tea polyphenols and a potential anti-sunburn and chemopreventive agents. The oxidation reaction is performed on leaves which contain moisture only in an amount that the oxidation reaction occurs under the conditions of temperature of 20-50°C, air or O₂ (0.2 to 2 moles O₂/kg dry tea) supply and pH 5.0 to 7.5 at localized sites on and within the tea leaf structure. The moisture is supplied by moistening fresh tea leaves or dry green tea to a limited degree with a proper amount and concentration of monophenol, catechol and polyphenol oxidases, and tyrosinase, or their combinations. Obtained black tea contains much more theaflavins than regular black tea, and is, therefore, a more healthful beverage than that produced through use of conventionally processed black tea.